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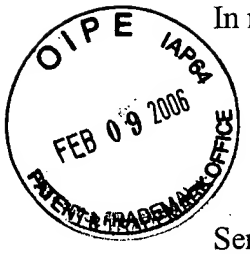
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



In re Application of:

Sunil Shanthaveeraiah
Aseem Rastogi
Raghavendra Rao

Serial No. 09/842,596

Filed: April 25, 2001

For: Persistent Repository for On-Demand Node Creation for Fabric Devices

§ Group Art Unit: 2157
§
§ Examiner: Nano, Sargon N.
§
§ Atty. Dkt. No.: 5181-79300
§ P5790

CERTIFICATE OF MAILING
37 C.F.R. § 1.8

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February 6, 2006
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APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

Further to the Notice of Appeal filed September 2, 2005, Appellants present this Appeal Brief. Appellants respectfully request that the Board of Patent Appeals and Interferences consider this appeal.

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I. REAL PARTY IN INTEREST

As evidenced by the Assignment recorded at Reel/Frame 011755/0120, the subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and now having its principal place of business at 4150 Network Circle, Santa Clara, CA 95054.

II. RELATED APPEALS AND INTERFERENCES

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-40 stand finally rejected. The rejection of claims 1-40 is being appealed. A copy of claims 1-40 is included in the Claims Appendix herein below.

IV. STATUS OF AMENDMENTS

No amendments to the claims have been submitted subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed toward a method for bringing fabric devices online to be accessible from a host system coupled to a fabric, where a plurality of fabric devices are coupled to the fabric. A host system may take various forms, according to different embodiments. For example, a host might take the form of a personal computer system, desktop computer, laptop computer, palmtop computer, mainframe computer system, workstation, network appliance, network computer, Internet appliance, personal digital assistant (PDA), embedded device, or even devices such as a smart phone, television system, or virtually any device having a processor that executes instructions

from a memory medium. The host system of claim 1 is coupled to a fabric, which, in one embodiment may be implemented using Fibre Channel technology and may include network switches coupled to storage devices or subsystems. A fabric topology, as in claim 1, in some embodiments, may include storage networks constructed with network switches. A fabric may include one or multiple switches. Examples of fabric devices are hard drives, tape drives, and optical drives, among other devices such as storage devices, printers, scanners, etc. *See, e.g.*, FIGs. 1, 2, 4 and 5; page 6, lines 19-28; page 7, lines 26-31; page 8, lines 20-27; and page 9, lines 6-11.

The method of claim 1 includes storing, in a persistent repository, an indication of which of the fabric devices are online for the host system to be accessible from the host system. A persistent repository, such as persistent repository 506 illustrated in FIG. 5, may, in one embodiment, be a data structure that stores information on the current status of the fabric devices. A persistent repository may be provided in the host system or in some location accessible to the host system, such as on a disk drive or non-volatile memory. A persistent repository may be updated to indicate which devices are currently online and accessible from the host. The information stored in the persistent repository may be dynamically updated to reflect the current state of the fabric devices. For example, if a fabric device is disabled, the persistent repository may be updated to reflect that the device is offline. Similarly, if the same device is later restored and brought online, the persistent repository may be updated to reflect the online status of the device. Additionally, the persistent nature of the persistent repository may allow a host's fabric device configuration to persist across reboots and shutdowns. *See, e.g.*, FIGs. 3, 5, 7, 8 and 10-12; page 12, lines 4-20; page 15, lines 15-21; page 18, lines 10-29; and page 19, lines 1-23.

The method of claim 1 also includes, following a reboot of the host system, reading the persistent repository to determine which fabric devices were online prior to the reboot and requesting the fabric devices that were online prior to the reboot to be brought online for the host system. As noted above, the persistent repository may be stored on persistent storage to enable the information in persistent repository to persist

across reboots or other shutdowns. An application running on the host system, such as administration application 502, may read the persistent repository to determine which devices were previously online. The devices that were online prior to the reboot may be requested to be brought online following the reboot. For example, an administration application may call a fabric driver of the host system to online the fabric devices that were online prior to the reboot. The fabric driver may attempt to online each device indicated by the persistent repository and may then update the persistent repository to reflect those devices currently online. *See, e.g.*, FIG. 12; page 3, lines 8-20; page 12, lines 4-11; and page 19, lines 1-16.

Independent claim 28 is directed toward a computer readable medium having stored on it data representing sequences of instructions that are executable by processors to implement the method recited in independent claim 1. A computer readable medium, such as memory 112, may represent various types of possible memory media, such as hard disk storage, floppy disk storage, optical disk storage, removable disk storage, flash memory or random access memory (RAM) as well as installation media, such as CD-ROM, floppy disk, and various types of computer system memory, such as DRAM, SRAM, EDO RAM, SDRAM, DDR SDRAM, Rambus RAM, etc. In addition, a computer readable medium may be located in one computer while being accessed by another computer, such as over a network. Computer programs stored on the computer readable medium may be provided to a processor, such as CPU 102 for execution. Please refer to the description of claim 1 above for a more detailed discussion of the method implemented by the sequences of instructions of claim 28. *See, e.g.*, FIG. 1; page 6, lines 6-17; and page 7, lines 14-24.

Independent claim 14 is directed toward a host system including one or more adapter ports for coupling to a fabric. Additionally, a plurality of fabric devices attached to the fabric are visible to the host system through one of the adapter ports. The host system of claim 14 is similar to the host system of claim 1. Additionally, the host of claim 14 includes adapter ports. In some embodiments, host adapters, such as host adapters 111a and 111b, may be fibre channel adapters and may each be a separate host

bus adapter card, each card providing one or more ports. *See, e.g.*, FIGs. 1, 4 and 5; page 7, lines 6-12; page 8, lines 13-18; and page 10, lines 13-20.

The host system of claim 14 also includes a fabric driver configured to interface the host system to the fabric, and an application configured to request the fabric driver to bring online a selected subset of the fabric devices for access from the host system. A fabric driver may provide an interface between a host system and a storage network, such as a switched storage network, in one embodiment. A fabric driver may provide an interface from the host system to the fabric and may be part of an operating system for the host. A fabric driver may also include various modules for handling different functions required to interface the host system to the fabric, such as protocol handling and transport layer operations. A library may be provided as an interface between an application and the fabric driver. The fabric driver may also provide a list of devices visible to the host system. For example, a fabric driver may obtain a list of devices connected to a fibre channel switched fabric by querying a fabric name server that includes a database of information about various fabric devices.

The application may provide a mechanism to select and online only a subset of fabric devices visible on the fabric. For example, an administration program may include a command line interface or graphical user interface, or both, for displaying a list of fabric devices available through the host adapter ports. A system administrator or other use may use such an interface to select a subset of the listed devices and request that the selected devices be brought online. In other embodiments, however, an application may make requests to the fabric driver to online fabric devices without the involvement of a system administrator. For instance, certain events or requests from other processes may result in the application requesting the fabric driver to online fabric devices. For example, when the host system is rebooted, an application may read a persistent repository, as described above regarding claim 1, and request that the fabric driver online the same devices that were online before the reboot. *See, e.g.*, FIGs. 1, 3, 6, 7 and 9-12; page 9, line 6 – page 10, line 20; page 10, line 22 – page 11, lines 4; page 11, line 12 – page 12, line 11; page 14, lines 20-30; page 15, line 23 – page 16, line 13; page 17, lines

1-17; and page 18, lines 4-18.

The fabric driver is also configured to attempt to online the selected subset of fabric devices and indicate to the application which ones of the selected subset are successfully onlined. The application is also configured to store in a persistent repository an indication of the fabric devices that are successfully onlined. For example, a subset of the fabric devices may be selected via an administration application on the host and brought online by the fabric driver, as described above. Onlining a device may include the creation of an operating system device node for that device that provides a mechanism for processes to communicate with the device from the host system. The fabric driver may indicate which devices where successfully brought online, such as be generating an event causing a persistent repository to be updated to reflect devices that were brought online. As described above, a persistent repository is a data structure that stores information on the current status of fabric devices and may be dynamically updated, such as by the application of claim 14, to reflect the state of fabric devices. *See, e.g.*, FIGs. 3, 7 and 9-12; page 9, line 6 – page 10, line 7; page 12, lines 4-20; page 15, lines 2-21; page 18, lines 4-18; and page 19, lines 1-10.

The summary above describes various examples and embodiments of the claimed subject matter; however, the claims are not necessarily limited to any of these examples and embodiments. The claims should be interpreted based on the wording of the respective claims.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-5, 7-10, 12-20, 22-25, 28-32, 34-37, 39 and 40 stand finally rejected under 35 U.S.C. § 102(e) as being anticipated by Tanaka et al. (U.S. Patent 6,633,538) (hereinafter "Tanaka").

2. Claims 6, 11, 21, 26, 27, 33 and 38 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka in view of Allen et al. (U.S. Patent

6,792,479) (hereinafter "Allen").

3. Claim 17 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka in view of Blonstein et al. (U.S. Patent 6,016,144) (hereinafter "Blonstein").

VII. ARGUMENT

First Ground of Rejection:

Claims 1-5, 7-10, 12-20, 22-25, 28-32, 34-37, 39 and 40 stand finally rejected under 35 U.S.C. § 102(e) as being anticipated by Tanaka et al. (U.S. Patent 6,633,538) (hereinafter "Tanaka"). Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claim 1:

In regard to claim 1, Tanaka does not teach storing in a persistent repository an indication of which of a plurality of fabric devices are online for a host system to be accessible from the host system. Tanaka does not even pertain to a host system for which fabric devices are brought online to be accessible to the host system. The Examiner has not identified which element of Tanaka he believes corresponds to the host system of claim 1. Nor has the Examiner identified which elements of Tanaka he believes correspond to the fabric devices of claim 1. Therefore, the rejection is unclear and improper. Tanaka clearly does not teach a host system for which fabric devices are brought online to be accessible to the host system. Instead, Tanaka teaches a node representation system in which each node refers to an address management table and monitors the node of an entry next from its entry in the table so each node monitors its next node while being monitored by the node of the preceding entry. *See* Tanaka, Abstract & Fig. 3.

Tanaka clearly does not teach storing in a persistent repository an indication of which of a plurality of fabric devices are online for a host system to be accessible from the host system. The Examiner refers to the data server described at col. 8, lines 12-67 of Tanaka. However, this portion of Tanaka clearly describes the data server as only storing "master identification information indicating which node is the master node." The master identification information stored by the data server in Tanaka has absolutely nothing to do with indicating which of a plurality of fabric devices are online for a host system to be accessible from the host system. Instead, Tanaka's data server only indicates which node is the master node. Furthermore, the data server in Tanaka is not described as a persistent repository that maintains data *across a reboot* of the host system. Neither the portion cited by the Examiner nor any other portion of Tanaka teaches storing in a persistent repository an indication of which of a plurality of fabric devices are online for a host system to be accessible from the host system.

In the Response to Argument section of the Final Action, the Examiner responds to the above argument with the unsupported assertion that Tanaka teaches a node representation system that designates for one of a plurality of nodes for a master node and the rest for slave nodes, where each node monitors the node of the next entry and the master node represents the functions of each slave node while duplicating. However, as explained above, Tanaka's node representation system does not pertain to a host system for which fabric devices are brought online to be accessible to the host system and has absolutely nothing to do with indicating which of a plurality of fabric devices are online for a host system to be accessible from the host system. The Examiner also asserts, citing column 8, lines 27-37, that Tanaka discloses that when the master node is powered on or reactivated, the master node checks all the nodes connected to the network, and updates and stores a list of IP addresses of the nodes still connected in a table. However, column 8, lines 27-37 of Tanaka contains no such teaching. Instead, this portion of Tanaka only describes a master startup process in which the master node obtains a virtual IP address and a master virtual IP address from an address management table. The cited section of Tanaka mentions nothing of the master node checking all the nodes connected to the network and updating and storing a list of IP addresses of the nodes still connected in a

table when the master node is powered on or reactivated. Even if Tanaka did contain such a teaching, it would still not be the same as *storing in a persistent repository* an indication of which of a plurality of fabric devices are online for a host system to be accessible from the host system.

In the Response to Argument section of the Final Action, the Examiner also states that Tanaka discloses "storing indication of which fabric devices are online." However, there is not such teaching in Tanaka. Furthermore, claim 1 does not recite "storing indication of which fabric devices are online." Instead, claim 1 recites "storing *in a persistent repository* an indication of which of the fabric devices are online for the host system to be accessible from the host system" (italics added). "All words in a claim must be considered." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) (emphasis added). The Examiner is improperly ignoring the specific wording of the claim. The Examiner has not identified which element of Tanaka he believes corresponds to the host system of claim 1. Nor has the Examiner identified which elements of Tanaka he believes correspond to the fabric devices of claim 1. Therefore, the rejection is unclear and improper. As shown above, Tanaka's teachings clearly do not describe storing in a persistent repository an indication of which of the fabric devices are online for the host system to be accessible from the host system.

Further in regard to claim 1, Tanaka does not teach reading the persistent repository following a reboot of the host system to determine which fabric devices were online prior to the reboot. The Examiner refers to col. 5, lines 12-20 of Tanaka which states:

> When the master node 110 is activated, the activation control process unit 111A refers to an address in the address management table 112A, and sets up in such a way that the master node 110 may function as a master node and may monitor a node with a specific address.
>
> When the master node 110 detects a failure in a slave node 120, the failure monitoring/representing process unit 111B takes over and performs both the functions provided by the slave node 120 stopped due to the failure, and the monitoring of a node to be monitored by the slave node 120.

Appellants fail to see how this portion of Tanaka has any relevance whatsoever to the limitations of claim 1. This portion of Tanaka describes how a master node performs the functions of a slave node when a failure in the slave node is detected. This clearly has absolutely nothing to do with reading a persistent repository following a reboot of a host system to determine which fabric devices were online prior to the reboot.

In the Response to Argument section of the Final Action, the Examiner states "Tanaka discloses the method includes obtained and maintained in a table which contains address names and corresponding IP addresses of the nodes (see col. 5 lines 29-49) following powering on a master node or reactivating a master node (see col. 8 lines 27-37)." However, column 5, lines 29-49 of Tanaka simply describes a table of address names and IP addresses, not a persistent repository storing an indication of which of a plurality of fabric devices were online for a host system prior to a reboot of the host system. Also, column 8, lines 27-37 of Tanaka only describes a master startup process in which the master node obtains a virtual IP address and a master virtual IP address from an address management table. This teaching of Tanaka clearly does not teach reading a persistent repository following a reboot of the host system to determine which fabric devices were online prior to the reboot.

In the Response to Argument section of the Final Action, the Examiner also states that Tanaka meets the scope of the claimed limitation "following a reboot, determine which devices were online." However, claim 1 does not recite "following a reboot, determine which devices were online." Instead, claim 1 recites "following a reboot of the host system, *reading the persistent repository* to determine which fabric devices were online prior to the reboot" (italics added). "All words in a claim must be considered." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) (emphasis added). The Examiner is improperly ignoring the specific wording of the claim. As shown above, Tanaka's teachings clearly do not describe, following a reboot of the host system, reading the persistent repository to determine which fabric devices were online prior to the reboot.

Further in regard to claim 1, Tanaka does not teach requesting the fabric devices that were online prior to the reboot to be brought online for the host system. The Examiner refers to column 5, lines 20-27 where Tanaka describes a resource duplication process unit that transmits a resource duplication request to a slave node whose resource is to be duplicated. Appellants fail to see how this portion of Tanaka has any relevance whatsoever to the limitations of claim 1. This portion of Tanaka clearly mentions absolutely nothing about bringing the same fabric devices online for a host system that were online for the host system prior to a reboot of the host system. The Examiner also refers to column 10, lines 24-50 of Tanaka that describes how a node obtains the IP address of a failed node so it can represent the functions of the failed node. Appellants fail to see how this portion of Tanaka has any relevance whatsoever to the limitations of claim 1. This clearly has absolutely nothing to do with requesting that the fabric devices that were online prior to a reboot of the host system be brought online for the host system.

In the Response to Argument section of the Final Action, the Examiner states, "Tanaka teaches the method also includes following the powering on or reactivating, updating the list of IP addresses of the master and slave nodes (see col. 5 lines 29-col. 6 lines 15)." However, column 5, line 29 - col. 6, line 15 of Tanaka does not mention anything in Tanaka's system that, following the powering on or reactivating, updates the list of IP addresses of the master and slave nodes. The Examiner appears to have misrepresented the teachings of Tanaka. Moreover, even if Tanaka did teach following the powering on or reactivating updating the list of IP addresses of the master and slave nodes, Appellants fail to see how that would have any relevance to requesting the fabric devices that were online prior to the reboot to be brought online for the host system.

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. M.P.E.P 2131; *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is

contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). As shown above, Tanaka clearly does not anticipate Appellants' claim 1.

Claim 2:

Regarding claim 2, Tanaka fails to disclose receiving a notification that a fabric device is no longer available and in response to the receiving, updating the persistent repository to reflect that the unavailable fabric device is offline. The Examiner cites column 17, lines 5-15, asserting that Tanaka discloses updating the master identification information. However, at column 8, lines 18-23 Tanaka teaches that the master identification information indicates which node is the master node. Tanaka does not mention anything regarding the master identification information reflecting that an unavailable fabric device is offline. The changes to master identification information through the control node in Tanaka has nothing to do with updating a persistent repository to reflect that an unavailable fabric device is offline. **Appellants note that the Examiner never rebutted this argument.**

Furthermore, the Examiner's cited passage is part of a discussion of Tanaka's node setting screen 300, which, as Tanaka teaches at column 16, lines 34-39, is used to set information needed to implement Tanaka's representation process. The Examiner's cited passage is not referring to either receiving a notification that a fabric device is no longer available nor about updating a persistent repository to reflect that the unavailable fabric device is offline in response to receiving the notification.

Thus, the rejection of claim 2 is not supported by the cited art and removal thereof is respectfully requested.

Claim 3:

In regard to claim 3, Tanaka fails to disclose that receiving a notification comprises receiving an event from a fabric driver executing on the host system. The Examiner cites column 6, lines 14-23 where Tanaka describes how when a slave node is

activated, it obtains the control table from the master node to determine which other node is should monitor. The cited passage does not describe anything regarding how receiving a notification includes receiving an event from a fabric driver executing on the host system. The cited passage does not describe anything receiving a notification or receiving an event. A slave node accessing information on a master node to determine which other node to monitor does not equate to, nor disclose, that receiving a notification includes receiving an event from a fabric driver executing on the host system. Appellants also note that **the Examiner has failed to rebut this argument**. The rejection of claim 3 is not supported by the cited art and removal thereof is respectfully requested.

Claims 4 and 7:

Regarding claim 4, Tanaka does not disclose determining whether each of the I/O ports is coupled to one or more direct attach devices or to the fabric. The Examiner cites column 5, lines 4-11, asserting that Tanaka disclose discovering devices using an address management table. However, the cited passage only mentions that a master node in Tanaka's system includes master data that includes an address management table. No mention is made, at the Examiner's cited passage or anywhere else in Tanaka, regarding determining whether I/O ports are coupled to direct attach devices or to the fabric. Tanaka does not make any distinction between ports for direct attach devices and ports for fabric devices. Appellants also note that **the Examiner has never rebutted this argument**.

Additionally, Tanaka fails to disclose for each of the I/O ports coupled to one or more direct attach devices, discovering the direct attach devices and bringing online each direct attach device for the host system. The Examiner cites column 15, lines 1-22, and asserts, "Tanaka discloses the duplication of arbitrary number of slave nodes." Appellants fail to see the relevance of Tanaka's nodes duplicating each other to discovering direct attach devices and bringing online each direct attach device for the host system. Tanaka's nodes are clearly not direct attach devices. Furthermore, Tanaka's duplication of nodes does not have anything to do with the I/O ports of a host system.

Tanaka also fails to disclose for each of the I/O ports coupled to the fabric, designating the I/O port as a fabric port without attempting to discover the fabric devices. The Examiner again cites column 15, lines 1-22 referring to Tanaka's duplication of arbitrary number of slave nodes. However, duplication of slave nodes has nothing whatsoever to do with for each I/O coupled to the fabric, designating the I/O port as a fabric port without attempting to discover the fabric devices. Tanaka does not mention anything about I/O ports being designated, or about designating I/O ports without attempting to discover fabric devices.

Thus, Tanaka clearly fails to anticipate claim 4. For at least the reasons above, the rejection of claim 4 is not supported by the cited art and removal thereof is respectfully requested.

Claim 5:

Regarding claim 5, Tanaka fails to disclose wherein reading the persistent repository and requesting the fabric devices that were online prior to the reboot to be brought online for the host system are performed for one or more of the I/O ports designated as a fabric port. The Examiner cites column 7, lines 50 – 65 and FIG. 3, asserting, "Tanaka discloses network nodes and their connections." However, the cited passage only generally describes how the nodes of Tanaka's system monitor each other in succession according to the IP addresses listed in an address management table. The cited passage does not mention, nor does FIG. 3 illustrate, anything about how requesting fabric devices that were online prior to the reboot to be brought online being performed for the I/O ports designated as a fabric port. As shown above regarding claim 4, Tanaka does not teach anything about designating I/O ports of a host system as fabric ports and also fail to disclose performing for the I/O ports designated as a fabric port requesting the fabric devices that were online prior to the reboot brought online for the host system. Thus, the rejection of claim 5 is not supported by the prior art and removal thereof is respectfully requested.

Claim 8:

Regarding claim 8, Tanaka fails to disclose attempting to log-in to the fabric through each I/O port. The Examiner cites column 13, line 61 – column 14, line 2. However, the cited passage does not describe attempting to log-in to the fabric through each I/O port. Instead, the cited passage describes how, after a resource is duplicated, a node judges whether or not its own IP address is "effective". Elsewhere (column 9, lines 16-25) Tanaka teaches that an IP address is effective or ineffective depending upon whether one of Tanaka's nodes can be accessed by using the address. Thus a IP address through which a node can be accesses is "effective" while one through which no node can be accessed is "ineffective." Thus, the cited passage has no relevance to attempting to log-in to the fabric through each I/O port. Determining whether an IP address can be used to access a particular node is not at all the same as attempting to log-in to the fabric through each I/O port. In fact, one could argue that one of Tanaka's nodes would inherently need access to Tanaka's network in order to determine (as described at column 9, lines 16-25) whether an IP address is "effective." Additionally, Tanaka's node would not attempt to log-in through each I/O port to determine whether an IP address is "effective."

Furthermore, Tanaka fails to disclose designating the I/O port as a direct-attach port if the log-in fails and if the log-in is successful, designating the I/O port as a fabric port. The Examiner cites column 2, lines 24-33 and column 13, lines 61-67 of Tanaka. The first cited passage is part of Tanaka's Summary and merely states that in Tanaka's system, the node monitor each other and make provide the functions of the a failed node. The second cited passage, as noted above, describes how after a resource is duplicated, a node determines whether its IP address is "effective". Thus, neither of the Examiner's cited passages mentions anything about designing I/O ports. IP address and I/O ports are very different things, as is well understood in the art. Further more, neither passage mentions anything about whether or not a log-in fails or is successful. Thus, the Examiner has failed to cite any passage of Tanaka relevant to claim 8.

The rejection of claim 8 is clearly not supported by the cited art and removal thereof is respectfully requested.

Claim 9:

Regarding claim 9, Tanaka fails to disclose requesting a fabric driver to create device nodes within the host system for each device that was online prior to the reboot, wherein each device node provides a mechanism for accessing a corresponding one of the fabric devices through an operating system executing on the host system. The Examiner cites column 5, lines 11-28 and asserts, "Tanaka discloses the monitoring of other nodes in the network." However, the cited passage does not teach anything about requesting a fabric driver to create device nodes with the host system. In fact, Tanaka does not mention, at the cited passage or elsewhere, anything about a fabric driver or about creating device nodes within the host system. The Examiner appears to be confusing Tanaka's nodes, which are hardware devices on a network with the device nodes with a host system that each provide a mechanism for accessing a corresponding fabric device through an operating system executing on the host system. Tanaka's hardware network nodes are very different from the device node with the host system of claim 9.

Thus, the rejection of claim 9 is not supported by the cited art and removal thereof is respectfully requested.

Claim 10:

Regarding claim 10, Tanaka does not disclose wherein storing in a persistent repository includes receiving from a fabric driver an indication of which ones of the fabric devices were successfully brought online. The Examiner cites column 8, line 65 – column 9, line 15 where Tanaka describes how, when a slave node attempts to obtain a virtual IP address corresponding to its own REAL IP address by accessing the address management table of the master node, if there is no master node, a confirmation packet is transmitted to the virtual IP address obtained from the slaves address management table.

If there is a response to the confirmation packet, the virtual IP address is already used by another node and cannot be used by the slave node. Thus, the cited passage clearly fails to teach anything regarding receiving *from a fabric driver* an indication of which ones of the fabric devices were successfully brought online. First of all, Tanaka does not mention anything about receiving any kind of indication from a fabric driver. Secondly, Tanaka does not describe receiving an indication of which fabric drivers where successfully brought online. The cited passage only refers to the fact, that if there is no master node, a slave node will attempt to use a virtual IP address from it own address management table by first sending a confirmation message to determine whether another node is already using that virtual IP address. Sending a confirmation message to determiner whether another node is already using a virtual IP address is clearly quite different from receiving from a fabric driver an indication of which fabric devices were successfully brought online.

Additionally, Tanaka fails to disclose in response to said receiving, updating the persistent repository to indicate the ones of the fabric devices that were successfully brought online. The Examiner cites column 17, lines 5-15, where Tanaka describes, regarding FIG. 11, that the master nodes receives, from the control node, information regarding the real and virtual IP address and the monitoring IP address for each node and updates the master identification information and the address management table. However, the information that the master node receives, as illustrated by FIG. 11, is clearly configuration information for the nodes, such as what virtual IP address a node should use and the virtual IP address of the node it should monitor. Tanaka does not describe updating a persistent repository to indicate which fabric devices where successfully brought online. The fact that configuration information was input by a user and that the master node updated the master identification information and the address management table does not teach anything about updating a persistent repository to indicate which fabric devices where successfully brought online.

For at least the reasons above, the rejection of claim 10 is not supported by the cited art and removal thereof is respectfully requested.

Claim 12:

Regarding claim 12, Tanaka does not disclose requesting a fabric driver to provide a list of the fabric devices coupled to the fabric, where the fabric driver provides an interface for the host system to the fabric. The Examiner cites column 6, line 61 – column 8, line 2, asserting, "Tanaka displays an interface for displaying a resource duplication designation screen and enabling a user to instruct the master node to execute resources." However, the cited passage has nothing to do with requesting a *fabric driver* to provide a list of fabric devices coupled to the fabric, where the fabric driver provides an interface for the host system to the fabric. Tanaka describing how each node in his system monitors another does not teach anything regarding requesting a fabric driver to provide a list of the fabric devices coupled to the fabric. Nor does the cited passage mention anything about a fabric driver that provides an interface for the host system to the fabric.

Tanaka additionally fails to disclose receiving the list of fabric devices from the fabric driver. The Examiner cites column 5, lines 50-59 where Tanaka describes how the monitoring address list indicates the virtual IP address for the node that another node should monitor. However, Tanaka's monitoring address list is not a list of fabric devices and is clearly not received *from a fabric driver*.

Furthermore, Tanaka does not disclose requesting the fabric driver to online a selected subset of the fabric devices from the list so that the selected subset of fabric devices are accessible from the host system. The Examiner cites column 17, lines 5-16. However, as described above regarding claim 10, this passage describes, regarding FIG. 11, that the master nodes receives, from the control node, information regarding the real and virtual IP address and the monitoring IP address for each node and updates the master identification information and the address management table. Thus, the cited passage does not mention anything about requesting a fabric driver to online a selected

subset of fabric devices. In fact, the cited passage is completely irrelevant to requesting a fabric driver to online a selected subset of fabric devices.

For at least the reasons above, the rejection of claim 12 is not supported by the cited art and removal thereof is respectfully requested.

Claim 13:

Regarding claim 13, Tanaka fails to disclose where the selected subset of the fabric devices is selected by an application displaying the list to a user and the user selecting one of the fabric devices. The Examiner cites column 6, line 61 – column 7, line 7, where Tanaka describes his resource duplication designation process unit that "provides an interface for displaying a resource duplication designation screen on the display unit 132 of the control node 130 in order to duplicate a desired resources (sic) from the master node 110 to the slave node 120." Thus, the cited passage clearly fails to teach where the selected subset of fabric devices to be brought online is selected by an application displaying the list to a user. While Tanaka's resource duplication designation process unit may indeed display a list of nodes and resources, they are not a selected subset of fabric devices to be brought online. Thus, Tanaka fails to anticipate claim 13. The rejection of claim 13 is not supported by the cited art and removal thereof is respectfully requested.

Claim 14:

In regard to claim 14, Tanaka does not teach a host system that has one or more adapter ports for coupling to a fabric, wherein a plurality of fabric devices attached to the fabric are visible to the host system through one of said adapter ports. Tanaka clearly does not pertain to a host system for which a plurality of fabric devices attached to a fabric are visible to the host system through an adapter port of the host system. The Examiner has not identified which element of Tanaka he believes corresponds to the host system of claim 14. Nor has the Examiner identified which elements of Tanaka he believes correspond to the fabric devices of claim 14. Therefore,

the rejection is unclear and improper. Tanaka clearly does not teach a host system for which a plurality of fabric devices attached to a fabric are visible to the host system through an adapter port of the host system. Instead, Tanaka teaches a node representation system in which each node refers to an address management table and monitors the node of an entry next from its entry in the table so each node monitors its next node while being monitored by the node of the preceding entry (*See* Tanaka, Abstract & Fig. 3). The Examiner refers to col. 5, lines 4-11 of Tanaka. However this portion of Tanaka simply describes a master node, not a host system for which a plurality of fabric devices attached to a fabric are visible to the host system through an adapter port of the host system. The address management table in Tanaka does not indicate that a plurality of fabric devices attached to a fabric are visible to the host system through an adapter port of the host system. Instead, Tanaka clearly describes that the address management table is used to indicate which other node each node is supposed to monitor.

Appellants note that the Examiner failed to ever rebut the above argument in regard to claim 14.

Further in regard to claim 14, Tanaka does not teach a fabric driver configured to **interface the host system to the fabric,** and an application configured to **request the fabric driver to bring online a selected subset of the fabric devices for access from the host system.** The Examiner refers to column 6, line 61 – column 7, line 2 of Tanaka which states:

> The resource duplication designation process unit 131A provides an interface for displaying a resource duplication designation screen on the display unit 132 of the control node 130 in order to duplicate a desired resources from the master node 110 to the slave node 120, and enabling a user, such as a system manager, etc. to instruct the master node 110 to execute a resources duplication process for a designated slave node 120 from the input unit 133 through the screen.

Appellants fail to see how this portion of Tanaka has any relevance whatsoever to the limitations of claim 14. Using a resource duplication designation screen of a control node to duplicate resources from a master node to a slave node has absolutely nothing to

do with a fabric driver bringing online a selected subset of fabric devices for access from the host system.

The Examiner also refers to col. 15, lines 1-22 of Tanaka which states:

> By these processes the master node 110 starts normally operating with the latest resource (step S409).
>
> FIG. 9 shows a resources duplication designation screen 200 being an example of the resources duplication designation screen for designating in such a resources duplication process. The resources duplication designation screen 200 comprises a duplication source 210, a duplication designation check box 220, duplication addresses 230 (230-1 to 230-6) and a duplication start button 240. The duplication source 210 indicates a node from which a resource is duplicated, and usually is a label indicated "Master node". The duplication designation addresses 230 are labels indicating nodes being duplicated. In order to duplicate the master node 110 to a certain duplication designation address 230 (for example, a slave node 2), the duplication designation check box 220 to the left of the duplication 230 address 230 (230-2) is clicked (selected) using an input unit 133, such as a mouse, etc. Such designation of duplication can also be made for an arbitrary number of slave nodes 120 and the master node 110, that is, a plurality of nodes can be simultaneously designated.

This portion of Tanaka describes the duplication of resources from one node to one or more other nodes. This portion of Tanaka teaches nothing of a fabric driver configured to interface the host system to the fabric, and an application configured to request the fabric driver to bring online a selected subset of the fabric devices for access from the host system. A duplication designation screen of a control node that provides for duplicating resources from one master/slave node to other master/slave nodes is not the same as an application configured to request a fabric driver to bring online a selected subset of the fabric devices for access from the host system.

Appellants note that the Examiner has never rebutted the above argument.

Furthermore, the Examiner has not identified which elements of Tanaka he believes correspond to the host system, adapter port, fabric devices, fabric driver, application and persistent repository recited in claim 14. Therefore, the rejection is unclear and improper. Appellants have previously requested that the Examiner, as

required by 37 CFR 1.104(c)(2), specifically identify which elements of Tanaka he believes correspond to the host system, adapter port, fabric devices, fabric driver, application and persistent repository recited in claim 14. In particular, Appellants requested that the Examiner refer to reference numerals in the Figures of Tanaka and specific elements in the specification of Tanaka. However, Appellants note that the **Examiner has failed to ever identify which elements of Tanaka he believes correspond to the host system, adapter port, fabric devices, fabric driver, application and persistent repository recited in claim 14,** ***as required by 37 CFR 1.104(c)(2).***

Further in regard to claim 14, **Tanaka does not disclose that the fabric driver is further configured to attempt to online the selected subset of fabric devices and indicate to the application which ones of the selected subset are successfully onlined.** The Examiner refers to column 8, line 58 – column 9, line 15 of Tanaka. This portion of Tanaka describes how a slave node obtains and verifies its virtual IP address. A slave node confirming its IP address clearly has absolutely nothing to do with a fabric driver attempting to online a selected subset of fabric devices and indicating to an application which ones of the selected subset are successfully onlined. **Appellants note that the Examiner never rebutted this argument.**

Further in regard to claim 14, **Tanaka does not disclose that the application is further configured to store in a persistent repository an indication of the fabric devices that are successfully onlined.** The Examiner refers to the data server described at column 8, lines 12-67 of Tanaka. However, this portion of Tanaka clearly describes the data server as only storing "master identification information indicating which node is the master node." The master identification information stored by the data server in Tanaka has absolutely nothing to do with an application storing in a persistent repository an indication of the fabric devices that are successfully onlined. Instead, Tanaka's data server only indicates which node is the master node. Furthermore, the data server in Tanaka is not described as a persistent repository that stores an indication of the fabric devices that are successfully onlined. Neither the portion cited by the Examiner nor any

other portion of Tanaka teaches an application storing in a persistent repository an indication of the fabric devices that are successfully onlined. **Appellants note that the Examiner failed to ever rebut this argument.**

Furthermore, the one or more adapter ports, fabric driver and application recited in claim 14 are all part of *a single host system*. However, the Examiner refers to functionalities of various different control, master and slave nodes in Tanaka. Tanaka clearly does not teach a single host system having one or more adapter ports, a fabric driver and an application, as recited in claim 14. **Appellants note that the Examiner has never rebutted this argument.**

Claim 15:

Regarding claim 15, Tanaka fails to disclose an application configured to read the persistent repository following a reboot of the host system to determine which fabric devices were online prior to the reboot. The Examiner cites column 5, lines 12-20 and asserts, "Tanaka discloses the taking over and the performance of both functions provided by the slave node that was stopped due to the failure and the monitoring of a node to be monitored by the slave node." However, as described above regarding claim 1, Tanaka's teachings regarding one node taking over responsibilities of a failed node has nothing to do with an application configured to read a persistent repository following a reboot of the host system to determine which fabric devices were online prior to the reboot.

Tanaka also fails to disclose that the application is configured to request the fabric driver to bring online the fabric devices that were online prior to the reboot. The Examiner cites column 5, lines 20-27 and column 10, lines 24-50, referring to Tanaka's teachings regarding adding or restoring a failed node. However, as described above regarding claim 1, neither of the cited passages teach anything regarding requesting a fabric driver to bring online fabric devices that were online prior to a reboot of the host system. Tanaka fails to mention, either at the cited passages or elsewhere anything about

an application configured to request a fabric driver to bring online fabric devices that were online prior to a reboot.

Thus, the rejection of claim 15 is not supported by the cited art and removal thereof is respectfully requested.

Claim 16:

Regarding claim 16, Tanaka fails to disclose where the application is further configured to request the fabric driver to provide a list of the fabric devices attached to the fabric that are visible to the host system through one of the adapter ports. The Examiner cites column 6, line 61 – column 7, line 2. The Examiner specifically refers to Tanaka's teachings regarding "an interface for displaying a resource duplication designation screen and enabling a user to instruct the master node to execute resources." However, the cited passage has nothing to do with requesting a *fabric driver* to provide a list of fabric devices coupled to the fabric, where the fabric driver provides an interface for the host system to the fabric. Tanaka's resource duplication designation display does not teach anything regarding requesting a fabric driver to provide a list of the fabric devices attached to the fabric that are visible to the host system.

Tanaka also fails to disclose that the fabric driver is configured to provide the list of fabric devices to the application in response to the request from the application. The Examiner again cites column 6, line 61 – column 7, line 2, which teaches nothing regarding a fabric driver configured to provide a list of fabric devices that are attached to the fabric and visible to the host system in response to the request from the application. Instead, as noted above, the cited passage describes Tanaka's resource duplication designation screen.

The rejection of claim 16 is not supported by the cited art and removal thereof is respectfully requested.

Claim 18:

Regarding claim 18, Tanaka fails to disclose where the fabric driver is configured to create device nodes within the host system for each devices of the selected subset, where each device node provides a mechanism for accessing a corresponding one of the subset of fabric devices through an operating system executing on the host system. The Examiner cites column 5, lines 11-28, asserting, "Tanaka discloses the monitoring of other nodes in the network." However, as described above regarding claim 9, the cited passage does not teach anything about requesting a fabric driver to create device nodes with the host system. In fact, Tanaka does not mention, at the cited passage or elsewhere, anything about a fabric driver or about creating device nodes within the host system. The Examiner appears to be confusing Tanaka's nodes, which are hardware devices on a network with the device nodes with a host system that each provide a mechanism for accessing a corresponding fabric device through an operating system executing on the host system. Tanaka's hardware network nodes are very different from the device node with the host system of claim 18. Thus, the rejection of claim 18 is not supported by the cited art and removal thereof is respectfully requested.

Claims 19 and 22:

Regarding claim 19, Tanaka fails to disclose determining whether each of the I/O ports is coupled to one or more direct attached devices or to the fabric. The Examiner cites column 5, lines 4-11, asserting that Tanaka disclose discovering devices using an address management table. However, the cited passage only mentions that a master node in Tanaka's system includes master data that includes an address management table. No mention is made, at the Examiner's cited passage or anywhere else in Tanaka, regarding determining whether I/O ports are coupled to direct attach devices or to the fabric. Tanaka does not make any distinction between ports for direct attach devices and ports for fabric devices.

Additionally, Tanaka fails to disclose for each of the I/O ports coupled to one or more direct attach devices, discovering the direct attach devices and creating an operating

system node for accessing each direct attach device. The Examiner fails to cite any portion of Tanaka regarding this limitation. Thus, the Examiner's rejection is improper. Tanaka does not mention anything regarding, nor is Tanaka concerned with, discovering direct attach devices and creating operating system nodes for attaching each direct attach device.

Tanaka also fails to disclose for each of the I/O ports coupled to the fabric, designating the I/O port as a fabric port without attempting to discover the fabric devices. The Examiner fails to cite any portion of Tanaka regarding this limitation in the rejection of claim 19. However, regarding claim 4, the Examiner cites column 15, lines 1-22 referring to Tanaka's duplication of arbitrary number of slave nodes. However, duplication of slave nodes has nothing whatsoever to do with for each I/O coupled to the fabric, designating the I/O port as a fabric port without attempting to discover the fabric devices. Tanaka does not mention anything about I/O ports being designated, or about designating I/O ports without attempting to discover fabric devices.

Thus, Tanaka clearly fails to anticipate claim 19. For at least the reasons above, the rejection of claim 19 is not supported by the cited art and removal thereof is respectfully requested.

Claim 20:

Regarding claim 20, Tanaka fails to disclose an application configured to read the persistent repository to determine which fabric devices were online prior to the reboot. The Examiner cites column 5, lines 12-20 and asserts, "Tanaka discloses the taking over and the performance of both functions provided by the slave node that was stopped due to the failure and the monitoring of a node to be monitored by the slave node." However, as described above regarding claim 15, Tanaka's teachings regarding one node taking over responsibilities of a failed node has nothing to do with an application configured to read a persistent repository following a reboot of the host system to determine which fabric devices were online prior to the reboot.

Tanaka also fails to disclose that the application is configured to request the fabric driver to bring online the fabric devices that were online prior to the reboot. The Examiner cites column 5, lines 20-27 and column 10, lines 24-50, referring to Tanaka's teachings regarding adding or restoring a failed node. However, as described above regarding claim 15, neither of the cited passages teach anything regarding requesting a fabric driver to bring online fabric devices that were online prior to a reboot of the host system. Tanaka fails to mention, either at the cited passages or elsewhere anything about an application configured to request a fabric driver to bring online fabric devices that were online prior to a reboot.

The rejection of claim 20 is not supported by the prior art and removal thereof is respectfully requested.

Claim 23:

Regarding claim 23, Tanaka fails to disclose attempting to log-in to the fabric through each I/O port. The Examiner cites column 13, line 61 – column 14, line 2. However, the cited passage does not describe attempting to log-in to the fabric through each I/O port. Instead, the cited passage describes how, after a resource is duplicated, a node judges whether or not its own IP address is "effective". Elsewhere (column 9, lines 16-25) Tanaka teaches that an IP address is effective or ineffective depending upon whether one of Tanaka's nodes can be accessed by using the address. Thus a IP address through which a node can be accesses is "effective" while one through which no node can be accessed is "ineffective." Thus, the cited passage has no relevance to attempting to log-in to the fabric through each I/O port. Determining whether an IP address can be used to access a particular node is not at all the same as attempting to log-in to the fabric through each I/O port. In fact, one could argue that one of Tanaka's nodes would inherently need access to Tanaka's network in order to determine (as described at column 9, lines 16-25) whether an IP address is "effective." Additionally, Tanaka's node would

not attempt to log-in through each I/O port to determine whether an IP address is "effective."

Furthermore, Tanaka fails to disclose designating the I/O port as a direct-attach port if the log-in fails and if the log-in is successful, designating the I/O port as a fabric port. The Examiner cites column 2, lines 24-33 and column 13, lines 61-67 of Tanaka. The first cited passage is part of Tanaka's Summary and merely states that in Tanaka's system, the node monitor each other and make provide the functions of the a failed node. The second cited passage, as noted above, describes how after a resource is duplicated, a node determines whether its IP address is "effective". Thus, neither of the Examiner's cited passages mentions anything about designing I/O ports. IP address and I/O ports are very different things, as is well understood in the art. Further more, neither passage mentions anything about whether or not a log-in fails or is successful. Thus, the Examiner has failed to cite any passage of Tanaka relevant to claim 8.

The rejection of claim 23 is clearly not supported by the cited art and removal thereof is respectfully requested.

Claim 24:

Regarding claim 24, Tanaka fails to disclose where the application includes a library configured to provide an interface to the fabric driver, wherein requests to bring fabric devices online are interfaced to the fabric driver through the library. The Examiner cites column 6, line 61 – column 7, line 2, asserting, "Tanaka displays an interface for displaying a resource duplication designation screen and enabling a user to instruct the master node to execute resources." However, a resource duplication designation screen has nothing whatsoever to do with a library providing an interface to a fabric driver. Tanaka's resource duplication designation screen does not include a library providing an interface to a fabric driver. Tanaka does not describe, either at the cited passage or elsewhere, that request to bring fabric devices online are interface to a fabric driver through the library. Tanaka clearly fails to teach such a library and the Examiner has

failed to cite any portion of Tanaka relevant to claim 24. thus, the rejection of claim 24 is not supported by the prior art and removal thereof is respectfully requested.

Claim 25:

Regarding claim 25, Tanaka fails to disclose where the library is configured to receive from the fabric driver a notification that a fabric device is no longer available and update the persistent repository to reflect that the unavailable fabric device is offline. The Examiner cites column 17, lines 5-15, asserting that Tanaka discloses updating the master identification information. However, at column 8, lines 18-23 Tanaka teaches that the master identification information indicates which node is the master node. Tanaka does not mention anything regarding the master identification information reflecting that an unavailable fabric device is offline. The changes to the master identification information through the control node in Tanaka has nothing to do with updating a persistent repository to reflect that an unavailable fabric device is offline.

Furthermore, the Examiner's cited passage is part of a discussion of Tanaka's node setting screen 300, which, as Tanaka teaches at column 16, lines 34-39, is used to set information needed to implement Tanaka's representation process. The Examiner's cited passage is not referring to either receiving a notification that a fabric device is no longer available nor about updating a persistent repository to reflect that the unavailable fabric device is offline in response to receiving the notification.

Thus, the rejection of claim 25 is not supported by the cited art and removal thereof is respectfully requested.

Claim 28:

Regarding claim 28, the arguments above regarding independent claim 1 also apply to independent claim 28.

Additionally, Tanaka fails to anticipate a computer readable medium storing data representing sequences of instructions that executable to implement storing in a persistent repository an indication of which of the fabric devices are online for the host system to be accessible from the host system, reading the persistent repository to determine which fabric devices were online prior to the reboot, and requesting the fabric devices that were online prior to the reboot to be brought online for the host system. **The Examiner has not identified any element of Tanaka corresponding to the computer readable medium recited in claim 28.** In other words, the Examiner has never explained how Tanaka anticipates the instruction sequence implementation stored in a computer readable medium as recited in claim 28. Therefore, the rejection of claim 28 is further improper. **Appellants note that the Examiner has never rebutted this argument.**

Thus, for at least the reasons presented above and the reasons presented regarding the rejection of claim 1, the rejection of claim 28 is not supported by the cited art and removal thereof is respectfully requested.

Claim 29:

The arguments presented above regarding independent claim 28 also apply to claim 29. In addition the arguments presented above regarding claim 2 also apply to claim 29. Thus, the rejection of claim 29 is not supported by the cited art and removal thereof is respectfully requested.

Claim 30:

The arguments presented above regarding independent claim 28 also apply to claim 30. In addition the arguments presented above regarding claim 3 also apply to claim 30. Thus, the rejection of claim 30 is not supported by the cited art and removal thereof is respectfully requested.

Claims 31 and 34:

The arguments presented above regarding independent claim 28 also apply to claims 31 and 34. In addition the arguments presented above regarding claims 4 and 7 also apply to claims 31 and 34. Thus, the rejection of claims 31 and 34 is not supported by the cited art and removal thereof is respectfully requested.

Claim 32:

The arguments presented above regarding independent claim 28 also apply to claim 32. In addition the arguments presented above regarding claim 5 also apply to claim 32. Thus, the rejection of claims 32 is not supported by the cited art and removal thereof is respectfully requested.

Claim 35:

The arguments presented above regarding independent claim 28 also apply to claim 35. In addition the arguments presented above regarding claim 8 also apply to claim 35. Thus, the rejection of claims 35 is not supported by the cited art and removal thereof is respectfully requested.

Claim 36:

The arguments presented above regarding independent claim 28 also apply to claim 36. In addition the arguments presented above regarding claim 9 also apply to claim 36. Thus, the rejection of claims 36 is not supported by the cited art and removal thereof is respectfully requested.

Claim 37:

The arguments presented above regarding independent claim 28 also apply to claim 37. In addition the arguments presented above regarding claim 10 also apply to

claim 37. Thus, the rejection of claims 37 is not supported by the cited art and removal thereof is respectfully requested.

Claim 39:

The arguments presented above regarding independent claim 28 also apply to claim 39. In addition the arguments presented above regarding claim 12 also apply to claim 39. Thus, the rejection of claims 39 is not supported by the cited art and removal thereof is respectfully requested.

Claim 40:

The arguments presented above regarding independent claim 28 also apply to claim 40. In addition the arguments presented above regarding claim 13 also apply to claim 40. Thus, the rejection of claims 40 is not supported by the cited art and removal thereof is respectfully requested.

Second Ground of Rejection:

Claims 6, 11, 21, 26, 27, 33 and 38 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka in view of Allen et al. (U.S. Patent 6,792,479) (hereinafter "Allen"). Appellants traverse this rejection for at least the following reasons.

Claims 6, 11, 33 and 38:

Claims 6, 11, 33, and 38 are allowable for at least the reasons presented above regarding their respective, independent claims.

Claims 21, 26 and 27:

Claims 21, 26, and 27 are allowable for at least the reasons presented above regarding their respective, independent claims.

Third Ground of Rejection:

Claim 17 stands finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka in view of Blonstein et al. (U.S. Patent 6,016,144) (hereinafter "Blonstein"). Appellants respectfully traverse this rejection for at least the reasons below.

Appellants assert that claim 17 is allowable for at least the reasons presented above regarding its independent claim.

If further regards to claim 17, Tanaka in view of Blonstein fails to teach or suggest an application configured to display a list of fabric devices through a graphical user interface and provide through the graphical user interface for the system administrator to select devices from the list as the selected subset of the fabric devices to be brought online. The Examiner cites column 6, lines 34-47 of Blonstein, asserting, "Blonstein discloses displaying graphic data representing a graphical user interface." Blonstein teaches a TV-based graphical user interface (GUI) to enable a user to tune a required TV channel and to display a program guide showing TV program information. Blonstein's GUI system has nothing whatsoever to do with displaying a list of fabric devices allowing a system administrator to select devices as a selected subset of fabric devices to be brought online. In fact, Blonstein teaches a very specific TV-based GUI that does not even include the capability of allowing a user to select a subset of fabric devices. Instead, Blonstein teaches a GUI system allowing a user to select a single channel to tune.

The Examiner admits that Tanaka does not teach a displaying a list of fabric devices through a graphical user interface providing for a system administrator to select devices from the list as the selected subset of fabric devices to be brought online. Thus, since Tanaka and Blonstein both fail to teach or suggest a displaying a list of fabric devices through a graphical user interface providing for a system administrator to select devices from the list as the selected subset of fabric devices to be brought online, no combination of Tanaka and Blonstein would include such functionality. Instead, the

Examiner's combination of Tanaka and Blonstein would only result in a system that performed the node monitoring and resource duplication of Tanaka, but also (somehow) included the TV-based channel selection interface of Blonstein.

Furthermore, the Examiner has not provided a proper motivation to combine Tanaka and Blonstein. The Examiner contends that it would have been obvious "to include the graphical user interface in Allen's invention to make it user friendly." However, no one looking to make Tanaka's system more user friendly would have been motivation to include the TV-based channel tuning graphical user interface of Blonstein. Tanaka has absolutely nothing to do with, nor is Tanaka concerned with, providing a user interface for tuning television channels. Blonstein is not concerned with nodes monitoring each other and taking over responsibility for the functions of a failed node, as taught by Tanaka. Thus, one of ordinary skill in the art would not have been motivated to combine the teachings of Tanaka and Blonstein. The rejection of claim 17 is not supported by the cited art and removal thereof is respectfully requested.

VIII. CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-40 was erroneous, and reversal of his decision is respectfully requested.

The Commissioner is authorized to charge the appeal brief fee of $500.00 and any other fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-79300/RCK. This Appeal Brief is submitted with a return receipt postcard.

Respectfully submitted,

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IX. CLAIMS APPENDIX

The claims on appeal are as follows.

1. A method for bringing fabric devices online to be accessible from a host system coupled to a fabric, wherein a plurality of fabric devices are coupled to the fabric, the method comprising:

storing in a persistent repository an indication of which of the fabric devices are online for the host system to be accessible from the host system;

following a reboot of the host system, reading the persistent repository to determine which fabric devices were online prior to the reboot; and

requesting the fabric devices that were online prior to the reboot to be brought online for the host system.

2. The method as recited in claim 1, further comprising:

receiving a notification that a fabric device is no longer available; and

in response to said receiving, updating the persistent repository to reflect that the unavailable fabric device is offline.

3. The method as recited in claim 2, wherein said receiving a notification comprises receiving an event from a fabric driver executing on the host system.

4. The method as recited in claim 1, wherein the host system comprises one or more I/O ports, the method further comprising:

performing a discovery process in response to said reboot, the discovery process comprising:

determining whether each of the I/O ports is coupled to one or more direct attach devices or to the fabric;

for each of the I/O ports coupled to one or more direct attach devices, discovering the direct attach devices and bringing online each direct attach device for the host system; and

for each of the I/O ports coupled to the fabric, designating the I/O port as a fabric port without attempting to discover the fabric devices.

5. The method as recited in claim 4, wherein said reading the persistent repository and said requesting the fabric devices are performed for one or more of the I/O ports designated as a fabric port.

6. The method as recited in claim 4, wherein the I/O ports comprise Fibre Channel host adapter ports.

7. The method as recited in claim 4, wherein each of the I/O ports coupled to one or more direct attach devices comprises a port to a Fibre Channel private loop or point-to-point link.

8. The method as recited in claim 4, wherein said determining whether each of the I/O ports is coupled to one or more direct attach devices or to the fabric comprises:

attempting to log-in to the fabric through each I/O port;

if the log-in fails, designating the I/O port as a direct-attach port; and

if the log-in is successful, designating the I/O port as a fabric port.

9. The method as recited in claim 1, wherein said requesting the fabric devices that were online prior to the reboot to be brought online comprises requesting a fabric driver to create device nodes within the host system for each device that was online prior to the reboot, wherein each device node provides a mechanism for accessing a corresponding one of the fabric devices through an operating system executing on the host system.

10. The method as recited in claim 1, wherein said storing in a persistent repository comprises:

receiving from a fabric driver an indication of which ones of the fabric devices were successfully brought online; and

in response to said receiving, updating the persistent repository to indicate the ones of the fabric devices that were successfully brought online.

11. The method as recited in claim 1, wherein the fabric comprises a Fibre Channel switched fabric comprising a plurality of Fibre Channel switches.

12. The method as recited in claim 1, further comprising, prior to said reboot:

requesting a fabric driver to provide a list of the fabric devices coupled to the fabric, wherein said fabric driver provides an interface for the host system to said fabric;

receiving the list of fabric devices from said fabric driver;

requesting the fabric driver to online a selected subset of the fabric devices from the list so that the selected subset of fabric devices are accessible from the host system; and

wherein said storing comprises updating or creating the persistent repository to indicate which of the fabric devices are online.

13. The method as recited in claim 12, wherein said selected subset of the fabric devices is selected by:

an application displaying the list to a user; and

the user selecting one of the listed fabric devices.

14. A host system, comprising:

one or more adapter ports for coupling to a fabric, wherein a plurality of fabric devices attached to the fabric are visible to the host system through one of said adapter ports;

a fabric driver configured to interface the host system to the fabric;

an application configured to request the fabric driver to bring online a selected subset of the fabric devices for access from the host system;

wherein the fabric driver is further configured to attempt to online the selected subset of fabric devices and indicate to the application which ones of the selected subset are successfully onlined; and

wherein the application is further configured to store in a persistent repository an indication of the fabric devices that are successfully onlined.

15. The host system as recited in claim 14, wherein the application is further configured to:

read the persistent repository following a reboot of the host system to determine which fabric devices were online prior to the reboot; and

request the fabric driver to bring online the fabric devices that were online prior to the reboot.

16. The host system as recited in claim 14, wherein:

the application is further configured to request the fabric driver to provide a list of the fabric devices attached to the fabric that are visible to the host system through one of said adapter ports; and

the fabric driver is further configured to provide the list of fabric devices to the application in response to the request for the list from the application.

17. The host system as recited in claim 16, wherein the application is further configured to:

display the list to a user through a graphical user interface; and

provide through the graphical user interface for the system administrator to select devices from the list as the selected subset of the fabric device to be brought online.

18. The host system as recited in claim 14, wherein said fabric driver is further

configured to create device nodes within the host system for each device of the selected subset, wherein each device node provides a mechanism for accessing a corresponding one of the subset of fabric devices through an operating system executing on the host system.

19. The host system as recited in claim 14, further comprising a plurality of I/O ports including the one or more adapter ports for connecting to a fabric, wherein the host system is further configured to executed a discovery process comprising:

determining whether each of the I/O ports is coupled to one or more direct attach devices or to the fabric;

for each of the I/O ports coupled to one or more direct attach devices, discovering the one or more direct attach devices and creating an operating system node for accessing each direct attach device; and

for each of the I/O ports connected to the fabric, designating the I/O port as a fabric port without attempting to discover the fabric devices.

20. The host system as recited in claim 19, wherein said discovery process is configured to execute in response to a reboot of the host system, and wherein said application is configured to execute on the host system subsequent to said reboot and said discovery process to:

read the persistent repository to determine which fabric devices were online prior to the reboot; and

request the fabric driver to bring online the fabric devices that were online prior to the reboot.

21. The host system as recited in claim 19, wherein each of the I/O ports

coupled to the fabric comprises a Fibre Channel host adapter port.

22. The host system as recited in claim 19, wherein each of the I/O ports coupled to one or more direct attach devices comprises a port to a Fibre Channel private loop or point-to-point link.

23. The host system as recited in claim 19, wherein said determining whether each of the I/O ports is connected to direct attach devices or to the fabric comprises:

attempting to log-in to the fabric through each I/O port;

if the log-in fails, designating the I/O port as a direct-attach port; and

if the log-in is successful, designating the I/O port as a fabric port.

24. The host system as recited in claim 14, wherein the application comprises a library configured to provide an interface to said fabric driver, wherein requests to bring fabric devices online are interfaced to the fabric diver through said library.

25. The host system as recited in claim 24, wherein the library is further configured to:

receive from the fabric driver a notification that a fabric device is no longer available; and

update the persistent repository to reflect that the unavailable fabric device is offline.

26. The host system as recited in claim 14, wherein the fabric comprises a Fibre Channel switched fabric comprising a plurality of Fibre Channel switches.

27. The host system as recited in claim 14, wherein the fabric driver comprises:

a Fibre Channel protocol module configured to perform SCSI protocol operations between the host system and the fabric; and

one or more Fibre Channel port drivers configured to perform transport layer operations between the host system and the fabric;

wherein the Fibre Channel protocol module and the one or more Fibre Channel port drivers are part of an operating system kernel on the host system.

28. A computer readable medium having stored thereon data representing sequences of instructions, wherein the sequence of instructions are executable by one or more processors to implement:

storing in a persistent repository an indication of which of the fabric devices are online for the host system to be accessible from the host system;

following a reboot of the host system, reading the persistent repository to determine which fabric devices were online prior to the reboot; and

requesting the fabric devices that were online prior to the reboot to be brought online for the host system.

29. The computer readable medium as recited in claim 28, wherein the sequence of instructions are further executable by one or more processors to implement:

receiving a notification that a fabric device is no longer available; and

in response to said receiving, updating the persistent repository to reflect that the unavailable fabric device is offline.

30. The computer readable medium as recited in claim 29, wherein said receiving a notification comprises receiving an event from a fabric driver executing on the host system.

31. The computer readable medium as recited in claim 28, wherein the host system comprises one or more I/O ports, wherein the sequence of instructions are further executable by one or more processors to implement:

performing a discovery process in response to said reboot, the discovery process comprising:

determining whether each of the I/O ports is coupled to one or more direct attach devices or to the fabric;

for each of the I/O ports coupled to one or more direct attach devices, discovering the direct attach devices and bringing online each direct attach device for the host system; and

for each of the I/O ports coupled to the fabric, designating the I/O port as a fabric port without attempting to discover the fabric devices.

32. The computer readable medium as recited in claim 31, wherein said reading the persistent repository and said requesting the fabric devices are performed for one or more of the I/O ports designated as a fabric port.

33. The computer readable medium as recited in claim 31, wherein the I/O ports comprise Fibre Channel host adapter ports.

34. The computer readable medium as recited in claim 31, wherein each of the I/O ports coupled to one or more direct attach devices comprises a port to a Fibre Channel private loop or point-to-point link.

35. The computer readable medium as recited in claim 31, wherein said determining whether each of the I/O ports is coupled to one or more direct attach devices or to the fabric comprises:

attempting to log-in to the fabric through each I/O port;

if the log-in fails, designating the I/O port as a direct-attach port; and

if the log-in is successful, designating the I/O port as a fabric port.

36. The computer readable medium as recited in claim 28, wherein said requesting the fabric devices that were online prior to the reboot to be brought online comprises requesting a fabric driver to create device nodes within the host system for each device that was online prior to the reboot, wherein each device node provides a mechanism for accessing a corresponding one of the fabric devices through an operating system executing on the host system.

37. The computer readable medium as recited in claim 28, wherein said storing in a persistent repository comprises:

receiving from a fabric driver an indication of which ones of the fabric devices were successfully brought online; and

in response to said receiving, updating the persistent repository to indicate the ones of the fabric devices that were successfully brought online.

38. The computer readable medium as recited in claim 28, wherein the fabric

comprises a Fibre Channel switched fabric comprising a plurality of Fibre Channel switches.

39. The computer readable medium as recited in claim 28, wherein the sequence of instructions are further executable by one or more processors to implement, prior to said reboot:

requesting a fabric driver to provide a list of the fabric devices coupled to the fabric, wherein said fabric driver provides an interface for the host system to said fabric;

receiving the list of fabric devices from said fabric driver;

requesting the fabric driver to online a selected subset of the fabric devices from the list so that the selected subset of fabric devices are accessible from the host system; and

wherein said storing comprises updating or creating the persistent repository to indicate which of the fabric devices are online.

40. The computer readable medium as recited in claim 39, wherein said selected subset of the fabric devices is selected by:

an application displaying the list to a user; and

the user selecting one of the listed fabric devices.

X. EVIDENCE APPENDIX

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

XI. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.